

IN THE CLAIMS:

The text of all pending claims is set forth below for the convenience of the Examiner. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1-8. (Cancelled).

9. (Previously Presented) A method of transmitting data by radio, comprising:
using a plurality of subcarriers of a frequency band and a plurality of antennas for transmission such that each antenna transmits data using the plurality of the subcarriers;
dividing data for transmission into a plurality of elements such that the number of data elements corresponds to the number of subcarriers;
for each antenna, assigning each element to a subcarrier for transmission, such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier; and
before performing an OFDM modulation for each antenna, multiplying each element by an antenna-specific and an element-specific factor.

10. (Previously Presented) The method in accordance with Claim 9, wherein the factor is a complex or real number, the absolute value of the factor being 1.

11. (Previously Presented) The method in accordance with claim 9, wherein for at least two antennas a common pattern is used to assign each element to a corresponding subcarrier.

12. (Previously Presented) The method in accordance with claim 11, wherein the common pattern is a cyclic permutation.

13. (Previously Presented) A method of transmitting data by radio, comprising:
using a plurality of subcarriers of a frequency band and a plurality of antennas for transmission such that each antenna transmits data using the plurality of the subcarriers;

dividing data for transmission into a plurality of data elements such that the number of data elements corresponds to the number of subcarriers;

for each antenna, assigning each element to a subcarrier for transmission, such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier;

performing an OFDM modulation for each antenna to produce timing sequences of time-dependent signals; and

for at least one antenna, rearranging the order of the time-dependent signals after OFDM modulation.

14. (Previously Presented) The method in accordance with claim 13, wherein for at least two antennas, the order is rearranged in accordance with a rearrangement common pattern.

15. (Previously Presented) The method in accordance with claim 14, wherein the rearrangement common pattern is a cyclic permutation.

16. (Previously Presented) The method in accordance with claim 15, wherein for at least two antennas an assignment common pattern is used to assign each element to a corresponding subcarrier.

17. (Previously Presented) The method in accordance with claim 16, wherein the assignment common pattern is a cyclic permutation.

18. (Previously Presented) The method in accordance with claim 13, wherein for at least two antennas a common pattern is used to assign each element to a corresponding subcarrier.

19. (Previously Presented) The method in accordance with claim 18, wherein the common pattern is a cyclic permutation.

20. (Previously Presented) A transmitter to transmit data by radio using a plurality of subcarriers of a frequency band and a plurality of antennas for transmission such that each antenna transmits data using the plurality of subcarriers, comprising:

division means for dividing the data into a plurality of elements such that the number of elements corresponds with the number of subcarriers;

assignment means for assigning each element to a corresponding subcarrier, the elements being assigned individually for each antenna such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier; and

an OFDM modulator to perform OFDM modulation for each antenna to produce time-dependent signals;

wherein the transmitter comprises either:

multiplication means for multiplying each element for each antenna by an antenna-specific and element-specific factor before OFDM modulation (OFDM), or

rearrangement means for rearranging the order of the time-dependent signals after OFDM modulation.